REMARKS

In the Final Office Action, claims 1-5, 13-17, 19 and 20 were rejected by the Examiner. More specifically:

- Claims 1-5, 13-16, 19 and 20 were rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,018,617 (*Sweitzer*); and
- Claim 17 was rejected as being unpatentable over *Sweitzer*.

Upon entry of this Response, claims 1-5, 13-17, 19 and 20 will remain pending. Claim 1 has been amended. For the reasons set forth below, Applicants request that the above-listed rejections be withdrawn.

Applicants request entry of these amendments as they place the application in condition for allowance or, at the least, in better condition for appeal.

Claims 1-4

Applicants submit that independent claim 1 is not anticipated by *Sweitzer* because *Sweitzer* fails to disclose each and every element of claim 1. More particularly, Applicants submit that *Sweitzer* fails to disclose, among other things, "generating a test item variant of the test item by assigning values to the variables using a simultaneous constraint solver" as recited in claim 1.

Sweitzer is directed to a method and system for producing tests that includes the capability to format mathematical expressions. An authoring tool uses variation rules, which include an ordered list of definitions and constraints, to define instances of generalized problems. "To produce an instance of a problem, the list of variation rules is evaluated sequentially from top to bottom. If a constraint is not satisfied, the current pass through the list is abandoned and evaluation restarts from the top of the list. A valid instance of the problem results when the end of the variation rule is reached." *Sweitzer* at 12:41-46. In other words, *Sweitzer* uses a **sequential** constraint solver that "processes the variation rules for a problem from the top down." *Id.* at 17:49-50.

Applicants have amended claim 1 to explicitly require that more than one constraint be evaluated simultaneously Thus, in contrast to the sequential constraint solver of *Sweitzer*, claim 1 requires the use of a **simultaneous** constraint solver to resolve a plurality of constraints in order to generate test item variants. A simultaneous constraint solver solves for all constraints

simultaneously. In other words, a simultaneous constraint solver merely requires determining values for a set of constraints once to generate a test item variant. As a result, test items are generated more efficiently. In contrast, the sequential constraint solver of *Sweitzer* deletes computed constraint values and restarts from the beginning of its constraint sequence when a constraint is not satisfied. *Sweitzer* at 15:39-40. As such, *Sweitzer*, unlike the simultaneous constraint solver of claim 1, typically requires evaluating multiple constraints a plurality of times until all of the constraints in the sequence are satisfied. Accordingly, *Sweitzer* does not disclose "generating a test item variant of the test item by assigning values to the variables using a simultaneous constraint solver" as required by claim 1.

In the Examiner's Response to Arguments, the Examiner provides two reasons why "the claims are not patentably distinguished over the disclosure of Sweitzer." The Examiner states that claim 1 only requires that the simultaneous constraint solver resolves "one constraint." Applicants have addressed this argument by amending claim 1 in order to specify that the "simultaneous constraint solver resolves a **plurality of constraints**" (emphasis added).

The Examiner also states that the claims are not patentably distinguished from *Sweitzer* because "in the process of evaluating the constraints of Sweitzer on one single pass wherein upon the first pass the variation rules that are applied and solved for are satisfied then multiple sequential evaluation passes would then be rendered unnecessary and would not be executed." Applicants submit that even in the extraordinary situation where all variation rules are met in a single pass, *Sweitzer* still does not disclose simultaneously resolving a plurality of constraints. In *Sweitzer*, the variation rule is itself the constraint (or, rather, may be the constraint – variation rules may also be, e.g., definitions). *Sweitzer* at 12:32-34. Thus, even if all the constraints in the Examiner's posited example are met in the first pass, each of the constraints are still evaluated sequentially in that single pass. *See Sweitzer* at 12:41-42 ("To produce an instance of a problem, the list of variation rules is evaluated sequentially from top to bottom").

For at least this reason, Applicants submit that independent claim 1 is not anticipated by *Sweitzer* because *Sweitzer* fails to disclose each and every element of claim 1. Applicants further submit that claims 2-4, which depend from and incorporate all of the limitations of claim 1, are also patentable over *Sweitzer*. Accordingly, for the reasons set forth hereinabove, Applicants request that the §102(e) rejections associated with claims 1-4 be withdrawn.

Claim 5

Applicants submit that independent claim 5 is not anticipated by *Sweitzer* because *Sweitzer*, among other things, "using a simultaneous constraint solver to determine values for the variables based on the constraints." Therefore, for substantially the same reasons set forth with respect to claim 1, Applicants submit that *Sweitzer* fails to disclose each and every element of claim 5. *See* MPEP §2131. Accordingly, for the reasons set forth hereinabove, Applicants request that the §102(e) rejections associated with claim 5 be withdrawn.

Claims 13-17, 19 and 20

Applicants submit that independent claim 13 is not anticipated by *Sweitzer* because *Sweitzer* fails to disclose, among other things, "simultaneously solving test item model constraints pertaining to variables of the selected test item model and generating test item solutions based on the selected test item model." Therefore, for substantially the same reasons set forth with respect to claim 1, Applicants submit that *Sweitzer* fails to disclose each and every element of claim 13. Applicants further submit that claims 14-17, 19 and 20, which depend from and incorporate all of the limitations of claim 13, are also patentable over *Sweitzer.* Accordingly, for the reasons set forth hereinabove, Applicants request that the §102(e) and § 103(a) rejections associated with claims 13-17, 19 and 20 be withdrawn.

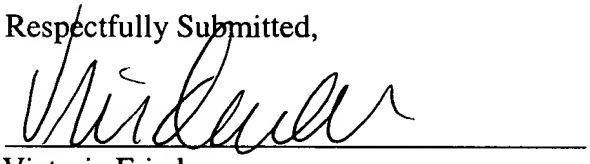
CONCLUSION

All of the stated grounds of rejection have been properly traversed, accommodated or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. There being no other rejections, Applicants respectfully request that the current application be allowed and passed to issue.

AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for this Response, or credit any overpayment, to deposit account no. 13-0019.

Respectfully Submitted,



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